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THE NEW ENGLAND BOTANICAL CLUB

Vol. 6 October, 1904 No. 70

THE AMERICAN REPRESENTATIVES OF PYROLA ROTUNDIFOLIA.

M. L. Fernald.

It has long seemed strange that the handsome plants passing as *Pyrola rotundifolia* should occupy in Europe and America geographic areas of such different character. The European plant is a species of northern and mountainous districts, extending from latitude 73° in Greenland,[1] latitude 67° in Lapland,[2] and Iceland and the Faroe Islands across much of Europe and western Asia to latitude 45°, and very rarely southward in the Pyrenees, Apennines, and other mountains.[3] An extreme Arctic representative of the plant, *P. grandiflora*, Radius (*P. groenlandica* and *P. pumila*, Hornem., *P. rotundifolia*, var. *pumila*, Hornem.) occurs in Greenland and the Arctic regions of America, extending south in Labrador to Hopedale (latitude 55° 40′). In Europe the range of *P. rotundifolia* closely approximates that of *P. minor*; and a third species, *P. media*, Swartz, unites to such an extent the characters of *P. rotundifolia* and *P. minor* that European botanists often find difficulty in distinguishing it.[4]

The large white-flowered plant which in America has long passed as true *Pyrola rotundifolia* occurs in open dry or sandy woods, rarely in swamps, from the Baie des Chaleurs, Quebec (latitude 48° 10′) west to South Dakota and south beyond latitude 35° into Georgia. Its range in America is thus much more southern than that of *P.*

[1] Lange, Consp. Fl. Groen. 85 (1880).

[2] N. J. Andersson, Pl. Vasc. Quickjock Lap. Lulensis, 27 (1845).

[3] See Nyman, Consp. Fl. Eur. 492 (1879).

[4] "P. media, Swartz. . . . Perhaps a mere variety of *P. minor*, and sometimes passing almost into *P. rotundifolia*."— Bentham, Brit. Fl., ed. 4, 300 (1878).

minor (the European associate of *P. rotundifolia*), a species occurring in arctic and subarctic America, extending southward in cold fir and spruce forests and deep swamps to Cape Breton, the higher mountains of northern New England, the Great Lakes, and the Rocky Mountains. At no point, except possibly the extreme northern limit of *P. rotundifolia* and the extreme southeastern limit of *P. minor* (where each species is rare and local) do their ranges coincide; and nowhere in America, so far as known, has there ever been found any transition between the two species, such as is represented in Europe by *P. media*.

Superficially the three plants, the European *Pyrola rotundifolia*, the Arctic *P. grandiflora*, and the so-called *P. rotundifolia* of temperate America, present little to indicate that they may not be phases of one broadly distributed species; and as such they have been treated by many authors, who, at the same time, have included with them *P. asarifolia*, Michx. and *P. bracteata*, Hook., both species of well defined characters and geographic range. In general, the plant of temperate North America is taller and has larger leaves, while the Arctic *P. grandiflora* is lower and with smaller leaves than *P. rotundifolia* of Europe.[1] In general, too, *P. grandiflora* of the Arctic regions and the plant of the eastern United States and Canada have much larger flowers with thicker petals than the European species, but in plants from northern Scandinavia the corolla is as large as in average American specimens.[2]

A comparison of the stamens brings out certain points which indicate, even more than the geographic range and the variation in size and texture of the petals and the size of the leaves, that the three plants are probably best treated as distinct species, or at least as well developed geographic subspecies. In the large-flowered plant of the eastern United States and Canada the filaments are shorter

[1] Measurement of 50 American herbarium-specimens shows a range in height from 9 to 36 (average 25) cm.; of 28 European plants a range from 15 to 30 (average 20) cm.; of 25 Arctic plants a range from 5 to 16 (average 10) cm. The leaves of the American plants show a range in the length of blade from 2 to 6.8 (average 4.4) cm.; of the European from 1.9 to 4.6 (average 3.3) cm.; of the Arctic from 1 to 3 (average 2) cm.

[2] Petals of 20 herbarium specimens of the plant of temperate America vary in length from 6.5 to 10.5 (average 8.4) mm.; of 20 European specimens they vary from 5.5 to 8 (average 6.5) mm.; of 20 Arctic American plants from 7.5 to 11 (average 8.7) mm.

while the anthers are distinctly longer than in the small-flowered European plant. In the largest-flowered member of the group, *P. grandiflora* of the Arctic regions, on the other hand, both the filaments and the anthers are shorter than in either the small-flowered European *P. rotundifolia*, or the large-flowered plant of temperate North America.[1]

In *Pyrola rotundifolia* of Europe and the Arctic *P. grandiflora* the anthers are muticous or rarely mucronulate at base. In the so-called *P. rotundifolia* of eastern America, as in *P. asarifolia* and *P. bracteata*, the base of the anther is distinctly mucronate. In the specimens at hand this character is very apparent, but, for the most part, current descriptions of *P. rotundifolia*, based upon both European and American material and generally including *P. asarifolia*, *P. bracteata*, *P. grandiflora*, etc., are similar to that in the Synoptical Flora: "the mucro at base either short and distinct or obsolete."[2]

At least one monographer of the group, however, Dr. Alefeld, basing his description solely upon Old World material,[3] says in his extended diagnosis: "antherae . . . . muticae."[4] In this connection, furthermore, it is interesting to note, as our present knowledge of plant-distribution might lead us to expect, that the material examined from Japan, Manchuria, and Korea has not only the large leaves and flowers but the large prominently mucronate anthers of the American plant. This fact was emphasized in 1872 by the discriminating Maximowicz who, in his "Diagnoses plantarum novarum Japoniae et Mandshuriae," commented on the monograph of Alefeld and stated that in the Japanese and American material the anthers were all mucronulate at base, though in Europe, where they are said to be muticous, mucronulate anthers often occur.[5]

[1] The stamens of the American plant show a range in length from 4.75 to 7 (average 6) mm., the anthers from 2.75 to 3.6 (average 3.2) mm.; of the European plant from 5 to 7.75 (average 6.27) mm., the anthers from 2 to 3 (average 2.5) mm.; of the Arctic plant from 4 to 5.5 (average 5) mm., the anthers from 1.7 to 2.3 (average 2) mm.

[2] Gray, Syn. Fl. ii. pt. 1, 47 (1878).

"[3] Da ich in allen Herbarien nur europäische oder asiatische, niemals amerikanische Examplare sah, so kann ich auch die von anderen Autoren angegebenen Standorte dieser Art für Amerika nicht anführen."— Alefeld, Linnaea, xxviii. 64 (1856).

[4] Alefeld, Linnaea, xxviii. 63 (1856).

[5] "Signa, quibus denuo tentavit dignoscere *P. asarifoliam* et *P. rotundifoliam* monographus Alefeld, sunt: calycis laciniae in priore breviores, antherae basi mucronulatae et stylus corollam aequans. In meis speciminibus numerosis e *Japonia* calycis laciniae occurrunt saepe lanceolatae, quales a monographo *P.*

Among the European specimens examined by the writer only two show the mucronulate base of the anther referred to by Maximowicz, but in these the mucro is much shorter than in anthers of the American plant and in their other characters the specimens are clearly referable to the European type. The mucronate base of the anther, then, although not an invariable character, is worthy at least of secondary consideration in distinguishing from the European and the Arctic species the plant of Eastern America and Asia.

In the European *Pyrola rotundifolia* the anther-cells are slightly constricted above, forming very short nearly straight necks or tubes through which open the pores. In the Arctic *P. grandiflora* these necks are essentially wanting; but in the plant of temperate America, Japan, etc., the necks are continued as prominent curved processes.

In the form of its style the Arctic *Pyrola grandiflora*, furthermore, presents a character which seems to separate it very clearly from the European *P. rotundifolia* and its larger American and East Asian representative. In the two latter plants the style is terminated by a distinct ring above which are the five protruding stigmatic lobes. In *P. grandiflora* this ring is nearly if not quite obsolete.

From these comparisons it seems that the plants of Northern Europe, of the Arctic regions of Greenland and America, and of eastern temperate North America and northeastern Asia are well defined members of the subgenus *Thelaia*. The two former are clearly referable to *Pyrola rotundifolia*, L., and *P. grandiflora*, Radius. The plant of eastern America and Eastern Asia has, however, been very generally accepted as identical with the Old World *P. rotundifolia*. Only one author, so far as known, has previously maintained for the plant specific validity.[1] Robert Sweet, in 1830, gave the plant an

rotundifoliae tribuuntur, stylus corollam aequans vel superans, antherae vero omnes basi mucronulatae. Ita inveni etiam in americanis, nempe calycis lacinias variabiles, antheras vero mucronulatas. At in europaeis, ubi antherae muticae postulantur, in permultis (scandinavicis, germanicis, galiicis) etiam mucronulatas video."—Maximowicz, Bull. Acad. Imp. Sci. St. Pét. xviii. 623 (1872).

[1] *Pyrola rotundifolia*, as published by Linnaeus in the Species Plantarum (396), included the American as well as the European plant; and among other citations was that of "Pyrola noveboracensis. *Cold. noveb.* 99." Colden's *P. noveboracensis*, published in Act. Soc. Upsal. 1743, p. 122, no. 99, was probably the large American plant, but I am unable to find that it has been taken up by any post-Linnean author as a species distinct from *P. rotundifolia*. Treated by Linnaeus and all subsequent authors as a pure synonym of *P. rotundifolia*, the pre-Linnean name, *P. noveboracensis*, can hardly be given nomenclatorial precedence over the post-Linnean *P. americana*, Sweet.

appropriate name, though, unfortunately, he failed to point out the characters upon which he based his conclusion. Sweet's Hortus Britannicus was, as its secondary title explains, "a catalogue of plants, indigenous, or cultivated in the gardens of Great Britain." The species under each genus were numbered separately, then were indicated the color, English name, geographic source, hardiness, duration, etc. The American plant, the ninth in Sweet's list of Pyrolas, was thus entered:

"9. americàna. (*wh.*) American. N. America. . . . . H. ♃.
rotundifòlia Ph. *non* Eng. bot."[1]

The reference to *Pyrola rotundifolia* of Pursh, not of the English Botany, alone defines Sweet's species, for there can be no doubt that Pursh's plant, "in dry stony or sandy woods: Canada to Carolina,"[2] was the common large-flowered plant of eastern America, which, treated as a valid species, should bear the name *P. americana*, Sweet.

Briefly, the conclusions reached in this study are, that *Pyrola rotundifolia*, *P. grandiflora*, and *P. americana*, are distinct though closely related species, each occupying a well defined geographic area and maintaining with essential constancy certain characters notably in the size of the petals, and the size, proportions, and forms of the anthers and filaments.

The leading characters of the plants are:

Pyrola rotundifolia, L. Sp. 396 (1753), as to European plant—including var. *arenaria*, Koch. Syn. 478 (1837). *Thelaia rotundifolia*, Alefeld, Linnaea, xxviii. 60 (1856). Plant varying in height from 15 to 30 (average 20) cm.: leaf-blade from 1.9 to 4.6 (average 3.3) cm.: petals comparatively thin, white or slightly purple-tinged, 5.5 to 8 (average 6.5) mm. long: stamens 5 to 7.75 (average 6.27) mm. long; the anthers 2 to 3 (average 2.5) mm. long, muticous or rarely mucronulate at base, the cells narrowed above to short straightish necks: style with a distinct ring or collar below the 5 protruding lobes of the stigma.—Greenland, Iceland, and Lapland, across northern and central Europe and western Asia and locally southward in the mountains.

P. americana, Sweet, Hort. Brit., ed. 2, 341 (1830). *P. rotundifolia*, Am. auth., mostly. Plant 9 to 36 (average 25) cm. high: leaf-blade 2 to 6.8 (average 4.4) cm. long: petals thick, cream-white, rarely pink-tinged, 6.5 to 10.5 (average 8.4) mm. long: stamens 4.75 to 7 (average 6) mm. long; anthers 2.75 to 3.6 (average 3.2) mm.

[1] Sweet, Hort. Brit., ed. 2, 341 (1830).
[2] Pursh, Fl. 299 (1814).

long, mucronate at base, the cells constricted above to prominent arched necks: style similar to that of *P. rotundifolia*.— Baie des Chaleurs, Quebec to South Dakota and Georgia; Japan, Korea, Manchuria.

P. GRANDIFLORA, Radius, Diss. Pyrol. 27, t. 3, fig. 2 (1821). *P. rotundifolia*, var. *pumila*, Hornem. dansk. oecon. Plantel., ed. 3, 463 (1821). *P. groenlandica*, Hornem. Fl. Dan. xi. t. 1817 (1825). *P. pumila*, Hornem. ex Cham. & Schl. Linnaea, i. 514 (1826). *P. rotundifolia*, var. *grandiflora*, DC. Prodr. vii. 773 (1839). *Thelaia grandiflora*, Alefeld, Linnaea, xxviii. 68 (1856). Plant 5 to 16 (average 10) cm. high: leaf-blade 1 to 3 (average 2) cm. long: petals thick, white to crimson, 7.5 to 11 (average 8.7) mm. long: stamens 4 to 5.5 (average 5) mm. long; the anthers 1.7 to 2.3 (average 2) mm. long, muticous at base, the cells barely constricted above: style without annulate tips.—Greenland and Arctic America, south to Hopedale, Labrador.

GRAY HERBARIUM.

NOTES ON THE FLORA OF BERKSHIRE COUNTY, MASSACHUSETTS.

RALPH HOFFMANN.

THE following records from Berkshire County, Massachusetts, may be of interest. They refer to plants which either have not hitherto been recorded from Massachusetts, or are known from very few stations in the state. These plants fall into more or less well-defined groups. In the cold sphagnum bogs and on the higher mountains occur northern plants which either reach or approach their southern limit for New England in Berkshire County. The western and southern river valleys, on the other hand, extend into New York or Connecticut, and on their well-drained slopes occur plants which for the most part have been prevented by the unbroken Hoosac Plateau from extending their range into central Massachusetts. Two or three plants are adventive but at least one is well-established.

Specimens of all the plants here recorded have been placed in the Herbarium of the New England Botanical Club. They have all been collected by me except in three instances where the plants were gathered by Mr. M. L. Fernald. I have to thank Mr. Fernald for his

usual generous assistance in identifying or verifying the specimens, and in the preparation of this article.

Aspidium aculeatum, Swartz, var. *Braunii*, Koch. In August, 1904, on revisiting the mountain brook which comes down the north side of Greylock, where I had previously found *Hydrophyllum Canadense*, I came across several plants of this fine fern. As far as I can discover, it has not hitherto been reported from Massachusetts.

Aspidium simulatum, Davenport. In September, 1904, I found this interesting fern not uncommon in the swampy woods bordering ponds in Becket and Otis. I have little doubt that on further search it will be found in similar situations in other parts of the county. Most of the New England records hitherto published have been from near the coast.

Potamogeton confervoides, Reichb. (*P. Tuckermani*, Robbins). Grows in Lake Undine on the Dome at an altitude of 2000 feet. The only other known station for Massachusetts is in Uxbridge, where it was collected by Robbins. It is found at high altitudes in New Hampshire and Vermont, and in several stations in New Jersey. It is recorded in Bennett's Plants of Rhode Island (p. 42) but no locality is given.

Eleocharis intermedia, Schultes. This species has been collected in northern Maine, in Vermont and in Salisbury, Connecticut but has not, so far as known, been reported for Massachusetts. I collected it in Pittsfield in 1902.

Scirpus lineatus, Michx. Collected at Stockbridge in 1902. It has been recorded from Middlebury and Bristol, Vermont (RHODORA, vi, 139), but not so far as I know from the other New England states.

Eriophorum polystachyon, L., var. *Vaillantii*, Duby. Mr. M. L. Fernald collected this cotton-grass at Sheffield in 1902. The attention of American botanists was first called to this variety by Mr. Fernald in RHODORA, iv. 82, where he records material collected by Dr. Fellows near Portland, Maine.

Carex aenea, Fernald. Occurs on rocky ledges on the Dome Sheffield, and in Glendale (vid. RHODORA, iv, 227).

Carex Bebbii, Olney. Occurs in bogs and low ground in Pittsfield, Glendale and Sheffield (vid. RHODORA, iv, 228.)

Carex intumescens, Rudge, var. *Fernaldii*, Bailey. Occurs not infrequently in wet woods.

Carex pauciflora, Lightf. I collected this sedge in September, 1904, in deep sphagnum at the head of Ward Pond in Otis. A sheet in the Dewey collection in the Gray Herbarium is marked Ashfield, and Dewey reported that it was collected in Ashfield and Hawley by Dr. J. Porter, Sill. Journ. x (1826), 42.

Chamaelirium Carolinianum, Willd. This plant was recorded in 1822 by Eaton (Manual of Botany, Ed. 3, p. 303) from Great Barrington, and by Dewey (Hist. of Berkshire p. 52) from Stockbridge. Several years ago a piece gathered in Stockbridge was sent to me, but was subsequently lost. This summer I collected it in Great Barrington.

Sisyrinchium mucronatum, Michx. Mr. Fernald collected this southern species in light sandy soil in Sheffield in 1902. It had been previously known only as far north as Connecticut.

Microstylis monophyllos, Lindl. There is no Massachusetts specimen of this orchid in the Gray Herbarium, but it is recorded as having been collected at Berlin, Spencer, and North Adams (Niles, Bog-trotting for Orchids p. 273), and it has been collected at Manchester, Vermont, and in New York State and northern Connecticut. I found a single plant in a cold spring hole in Stockbridge in August, 1904.

Arceuthobium pusillum, Peck. Grows on black spruce (*Picea nigra*) in peat bogs at the edge of a small pond in Becket, south of Yokum Pond, and at the head of Ward Pond in Otis. As I gathered it from a low spruce in September, I was struck in the face by a volley of seeds.

Oxalis filipes, Small. Mr. Fernald collected this southern species in Sheffield in June, 1902 (Rhodora, v, 34). It had previously been found at Northampton, Massachusetts, and Mr. Bissell has recorded it from Salisbury, Connecticut (Rhodora v, 33).

Ilex monticola, Gray, var. *mollis*, Britton. While collecting on the western side of the Dome in 1902, I found a strange Ilex growing commonly in shade in the moist woodland. Mr. Fernald has determined it as *Ilex monticola*, var. *mollis*. The type occurs on the Taconic and Catskill Mts. in New York, but the variety has not hitherto been reported north of Pennsylvania.

Epilobium hirsutum, L. Well established along the edge of a ditch in Lenox, forming a very ornamental border. The owners of the property inform me that it has been growing there for a long time

but they know nothing of its introduction. It has been collected at Portland, Maine, and in New Bedford, Massachusetts.

Epilobium lineare, Muhl., var. *oliganthum*, Trelease. Grows in a sphagnum bog in Sheffield. This northern form has been reported from Maine, New Hampshire and Vermont and has been collected by Mr. R. G. Leavitt in North Easton, Massachusetts.

Gaura biennis, L. In 1895 I collected a plant of Gaura in a mowing field in the Notch, North Adams, and in 1904 I found another plant in a dry field near the Housatonic River in Lee. In Bishop's Connecticut list (p. 39) it is reported as "becoming frequent."

Angelica hirsuta, Muhl. Grows in rocky woodland on the south slope of Monument Mountain in the town of Great Barrington. It is reported frequent in Connecticut but has not been recorded for Massachusetts.

Pyrola secunda, L., var. *pumila*, Gray. Occurs in Stockbridge in sphagnum near thickets of *Salix serissima*, Fernald. It has been previously reported from northern Maine, Vermont, New York and westward, but not, so far as I know, from Massachusetts.

Hydrophyllum Canadense, L. In Eaton's Manual of Botany (ed. 3, p. 311) this plant is recorded from Williamstown, but it was apparently not discovered by later collectors in that region. In 1899 I found it along a brook that flows down the northern side of Greylock, crosses the road from the Notch to Williamstown and flows into the Hoosac near Blackinton (vid. Deane, RHODORA, vi, 155). On a second visit this summer, I found the plant common in the rich soil bordering the brook. The plant should be looked for on other portions of the mountain.

Verbena angustifolia, Michx. Collected in Egremont in 1902. It has been previously recorded from South Hadley by Hitchcock and from Amherst by Clark (Cobb's Plants of Amherst, p. 16). It has recently been added to the Vermont list (RHODORA, vi, 142).

Veronica Anagallis, L. Occurs in wet brooks in Stockbridge and Sheffield. This western species is recorded from two stations in Vermont, and there is a specimen in the Gray Herbarium collected by Oakes in Ipswich, Massachusetts, but it has not, so far as is known, been again collected in Eastern Massachusetts.

Veronica Virginica, L. Grows in alluvial soil in Stockbridge and in Sheffield. It is common from Connecticut southward, but there are no specimens in the Gray Herbarium from Massachusetts or northward.

Plantago media, L. A single plant was found on a lawn in Lenox. It has previously been reported from Maine, Rhode Island, Ontario and New York.

Galium Labradoricum, Wiegand. In cold bogs throughout the county. This northern species has not hitherto been reported from western Massachusetts, but it has been recorded from northwestern Connecticut (Bissell, Rhodora, v, 33).

Galium trifidum, L. Occurs in Pittsfield and Sheffield and should be looked for in Connecticut. It has not, so far as I know, been previously reported from Massachusetts.

Symphoricarpos racemosus, Michx., var. *pauciflorus*, Robbins. Occurs on a dry hill in Sheffield. It grows in western Vermont, but has not hitherto been known from Massachusetts. The record for the state in Rhodora, vi, 55 is based on a specimen collected in Sheffield in 1902.

Solidago rigida, L. There is an extensive patch of this fine goldenrod on a dry hillside in Sheffield. It has been already recorded from South Hadley, Massachusetts, and it occurs in Connecticut.

Antennaria petaloidea, Fernald. This species is not uncommon in the county. It has already been recorded from Worcester County, Massachusetts (Harper, Rhodora, iii, 186).

Belmont, Massachusetts.

NOTES ON THE FLORA OF DAY MOUNTAIN, FRANKLIN COUNTY, MAINE.

C. H. Knowlton.

Day Mountain is a steep rocky ridge of land lying mostly in the eastern part of Avon, reaching down into Temple at the southern end, and into Strong on the eastern slope and northern end. It is nearly parallel with the Sandy River, and its general direction is roughly north and south. The ridge is well covered with deciduous trees except at the southern end. Steep and often perpendicular cliffs are very numerous, some of them two or three hundred feet high.

The entire ridge is over three miles long and is divided into two parts by a notch about one-third the distance from the northern end.

In this notch, shut in by the woods, is a beautiful pond several acres in extent. Aneroid readings taken by Mr. E. B. Chamberlain give the following corrected results: southern end, 2059 ft.; pond, 1369 ft.; northern end, 1601 ft.

From the pond a brook descends on the eastern side through a rocky gorge, 20 to 50 feet deep, to the Sandy River, 900 ft. below. About 500 feet of this descent is a splendid succession of waterfalls, which is at high water remarkably romantic and beautiful. The northern portion of the range seems to be composed of calcareous slate, while the southern end is granitic in structure.

Allied apparently to Day Mountain as regards flora, is a long range of hills stretching through Strong, New Vineyard and Industry, culminating in New Vineyard Mountain. This range I have not explored very thoroughly, and even Day Mountain itself, after seven visits, still seems to offer additional finds to the careful observer.

The following are the more notable plants of the region. Some of the ferns have been previously reported by Mr. H. W. Jewell (Rhodora, iv, 247).

Adiantum pedatum, L. Frequent along the base of the mountain, and in the southern towns of the county.

Aspidium aculeatum, Swartz, var. *Braunii*, Koch. Frequent in the gorge, and at the base. Exceedingly abundant on one of the New Vineyard hills.

Aspidium Goldianum, Hook. Wet woods near eastern base. It also grows in Farmington.

Aspidium spinulosum, Swartz, var. *dilatatum*, Hook. This grows luxuriantly on the southern end of the mountain, above 1600 feet. It is common as low as 1200 feet on all the other mountains of the county which I have explored.

Asplenium Trichomanes, L., is exceedingly common and luxuriant on dry shady ledges on the eastern side. This is its limit in this direction. It has been reported at Livermore, 30 miles away (*Mrs. H. K. Morrell*), also at Mt. Pisgah, Winthrop (*C. H. Knowlton and L. O. Eaton*).

Cystopteris bulbifera, Bernh. Wet woods at western base. Also in Farmington.

Phegopteris hexagonoptera, Fée, is abundant in a clearing near the southern end. It also grows at Farmington. This is well out of range, as the nearest stations are near the Kennebec.

Agropyrum caninum, R. & S. Dry rocks, common.

Agrostis hyemalis, Willd., is very common in the dry rocky woods. It also grows in wet soil at Farmington and Strong.

Danthonia spicata, Trin. Abundant on the bare portion of the top. It also grows on Bald Mountain, Perkins Plantation (*C. H. Knowlton and E. B. Chamberlain*).

Milium effusum, L. The only station reported in the State. It is very abundant, and is stoloniferous.

Oryzopsis asperifolia, Mahl., is very common on dry ledges, and has previously been reported in Maine only from East Auburn.

Poa alsodes, Gray, and *Poa pratensis*, L. Occasional in open places on the summit of the higher part.

Hylocomium triquetrum, B. Br. Rather common in high woods.

Allium tricoccum, Ait. Very common. Also at Farmington.

Clematis verticillaris, DC. Dry woods, northern portion: the only station in the region (*E. B. Chamberlain and C. H. Knowlton*).

Ranunculus abortivus, L., var. *micrus*, Fernald. Frequent in moist woods. Also at Farmington.

Arabis lyrata, Poir. Not common here, but abundant on one of the Strong hills across the river. Reported in Maine only from North Berwick.

Draba nemo, L. Abundant on dry ledges, the only Maine station.

Erysimum hieraciifolium, L. One station in an opening half way up the mountain, as if introduced. No other station in the county.

Saxifraga Virginiensis, Michx., grows abundantly here and on the New Vineyard hills, but apparently not on the lower land nor farther north.

Ribes Cynosbati, L. Frequent.

Crataegus coccinea, Lodd. Frequent in open spaces.

Geum album, Gmelin. On dry rocks (*C. H. Knowlton and E. B. Chamberlain*). In the neighboring towns the white avens is *G. Virginianum*, L.

Geum rivale, L. Very common in rocky woods. There is one station in Farmington, and it seems here to reach its northern limit in this direction.

Chrysosplenium Americanum, L. The only station known in the Sandy River valley. It grows along the Kennebec as far as Skowhegan, and at Livermore Falls on the Androscoggin.

Cornus alternifolia, L. f. & G. One station near the river. Also in Madrid, 15 miles north.

Calamintha Clinopodium, Benth. Common in dry woods and copses throughout the southern towns of the county.

Arctium Lappa, L., var. *tomentosum*, Gray. One station in a clearing. A remarkably handsome form (*C. H. Knowlton and E. B. Chamberlain*).

Solidago macrophylla, Pursh. A little grows on the higher part of the mountain. Common on elevations above 1800 feet, and very abundant on Mount Blue, in the same town (Avon).

The flora of the pond is not appreciably different from that of similar sheets of water at ordinary elevations. The dryness of the cliffs seems to limit their flora to plants of one type, but I may later discover wet cliffs. The mountain is particularly interesting on account of its many southern species, mingled somewhat with northern plants.

LEXINGTON, MASSACHUSETTS.

THE DEATH OF WILLIAM WENDTE.—On April 28th, 1904, William Wendte, an esteemed member of the New England Botanical Club, was killed by hostile natives in British East Africa. He was born August 28th, 1877, and his sudden death at the early age of twenty-seven is the saddest that has occurred in the history of the Club. Mr. Wendte, although for many years keenly interested in plants, was diffident in the matter of publication and left no printed papers to record his observations. He had traveled somewhat widely, making for instance a visit to the Hawaiian Islands some years ago. The plants which he collected there he generously deposited in the Gray Herbarium. He first attracted the notice of professional botanists by a series of minor but very discriminating criticisms on Gray's Manual, which he sent to the editors. He was elected to membership in the New England Botanical Club, February 3rd, 1899, and although living beyond the limit of resident membership he attended the meetings with great regularity.

An active member of the Society of Friends, he had planned to make an extended tour among the Friends' Industrial Missions throughout the world. He had reached the station of Kaimosi, about twenty miles northeast of Port Florence in British East Africa early in March. The hostile Nandi tribe had at that time become

so threatening as to oblige the government to send a detachment of soldiers to protect the Mission.

The exact manner of his death is unknown, but the presumption is that, venturing too far into the forest while making some botanical investigations, he was, in company with one of the guards, surprised and killed by a party of the Nandis.

William Wendte was one of the most self-sacrificing spirits I have ever known. Self with him was always a secondary consideration, and he was happiest when doing something for others. His highest ambition was to fit himself for a career of usefulness, and his death was a great loss. Possessed of an extraordinarily amiable character he made friends of all who came in contact with him, and he will be greatly missed by those who loved him.—G. E. D.

Asplenium ebeneum proliferum. — In a recent number of Rhodora[1] the writer described a specimen of the above fern which he found near Baltimore. A few days ago he came across another while preparing to mount an unusually fine plant. Instead of the two small, nearly entire fronds less than 4 mm. long, this plant had two fronds the largest of which was about 47 mm. long. The other frond was not yet fully developed, but it as well as the mature one was pinnate and in no way different from fronds of the same size on sporelings.

Soon after this eleven more specimens of this form were found during the Botanical Symposium at McCall's Ferry, Pa. Ten of these were found in a space six inches square. They were of all sizes from 50 mm. down to tiny plants with fronds 6 or 8 mm. in length. All of these had pinnate fronds, and none of them showed any approach to the simpler fronds of the plant first seen a year ago. Only one of them was peculiar in having the young plant at the extreme lower end of the stipe — practically in its axil — instead of at the point where the lowest pinna had been attached. All of them were on sterile fronds. From this and the dampness of the earth in which they grew it seems evident that the proliferous character is mainly caused by the accidental burying of the procumbent sterile fronds under circumstances most favorable to the decided tendency

[1] Rhodora, V, 272, 1903.

possessed by the fern in this direction. — C. E. WATERS, Johns Hopkins University.

[Since the above was written two more specimens were found on the steep side of a railroad cut. Plainly this form is not rare but has merely been overlooked by collectors.— C. E. W.]

JUNCUS EFFUSUS, VAR. COMPACTUS IN NEW HAMPSHIRE.— In Preliminary Lists of New England Plants,— XIII. Juncaceae (RHODORA, vi. 34) *Juncus effusus*, var. *compactus*, Lejeune & Courtois, is recorded only from Maine and Massachusetts. On 13 August, 1903, I found this plant, with *J. effusus*, L., beside a brook in East Andover, New Hampshire.— MARY A. DAY, Gray Herbarium.

PLANTAGO ELONGATA IN MASSACHUSETTS.— The published records for this plant in New England, do not extend the range of *Plantago elongata*, Pursh, further to the northeast than Greenwich, R. I. In the spring of 1901, however, Mr. J. F. Collins and the writer collected this plant in East Providence, R. I., and a few days latter in Seekonk, Massachusetts. The stations are extensive and the plant well established, so without doubt further search will result in extending the known range towards Cape Cod.— EDWARD B. CHAMBERLAIN, Washington, D. C.

MISS EASTMAN'S NEW ENGLAND FERNS AND THEIR COMMON ALLIES[1] is a neat 12mo volume of 160 pages. The style is popular without being effusive and the information given is unusually accurate for a non-technical book. Even such recently published species and varieties as *Nephrodium pittsfordense* and *N. spinulosum*, var. *concordianum* are duly included, showing that the authoress has taken considerable pains to follow up the latest work on her subject. The nomenclature is in the main that of the sixth edition of Gray's Manual. In the present divergence of nomenclatorial practice it is well nigh impossible, however, to treat any considerable group consistently without creating some new combinations. Of these, the follow-

[1] Houghton, Mifflin & Co., Boston, July, 1904, $1.25.

ing have been noticed in a brief examination of Miss Eastman's book. *Dryopteris spinulosum*, var. *concordianum*, Eastman, and *Aspidium spinulosum*, var. *concordianum*, Eastman (=*Nephrodium spinulosum*, var. *concordianum*, Davenport), *Aspidium marginale*, forma *Davenportii*, Eastman (without synonymy but figured and doubtless relating to *Nephrodium marginale*, forma *Davenportii*, Floyd), and *Aspidium pittsfordense*, Eastman (*Dryopteris pittsfordensis*, Slosson, *Nephrodium pittsfordense*, Davenp.). The introduction of such new binomials and trinomials in popular works, and unaccompanied by complete synonymic citation, although sometimes difficult to avoid, is always unfortunate. When such names are so published, however, the author will do well to distinguish them clearly either by the use of different type (preferably full face) or still better by employing the customary abbreviations, n. sp., n. var., n. comb., or n. nom. The importance of thus clearly indicating new names is little appreciated by popular authors and, indeed, by some technical writers as well. Yet no small amount of our present nomenclatorial confusion has arisen through negligence in just such matters, a form of carelessness or possibly in some cases a false modesty, which has often led to the oversight of names until long after others have become established.

Botrychium tenebrosum, A. A. Eaton, is appended to *B. matricariaefolium*. We believe it to be rather a shade form of *B. simplex*, from which, in fact, it seems to possess no clearly marked distinction, the position and emarginate nature of the sterile frond being highly variable even in plants of the same colony.

The chief fern-allies are also described and figured. It may be noted that the plant illustrated as *Lycopodium complanatum* is Mr. Fernald's well marked variety *flabelliforme*.

The illustrations are half-tone plates, attractive and sufficiently clear for recognition. But although a very fine screen has been used and the printing of the plates is irreproachable the process is not entirely satisfactory for the objects represented. The venation, for instance, rarely comes out with distinctness. — B. L. R.

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